

CLAIMS:

1. A lighting system provided with a light-emitting panel comprising
 a front wall, a rear wall situated opposite thereto, and furthermore, between the
 front and the rear wall, a first edge surface and, opposite thereto, a second edge surface,
 the first edge surface being light-transmitting,
 5 while at least a first light source is associated with the first edge surface, and
 while, in operation, light originating from the first light source is incident on
 the first edge surface and distributes itself in the panel,
 characterized

10 in that the light-emitting panel widens over a widening section from the first
 edge surface in a direction towards the second edge surface, and
 in that the rear wall is provided over the widening section with a multiplicity
 of steps of which a surface facing the front wall is substantially parallel to the front wall.

2. A lighting system as claimed in claim 1, characterized in that the ratio of the
 15 surface area S_1 of the first edge surface and the largest cross section S_{lcs} in the light-emitting
 panel substantially parallel to the first edge surface satisfies the relation:

$$1 < \frac{S_{lcs}}{S_1} < 10.$$

3. A lighting system as claimed in claim 2, characterized in that the ratio S_{lcs}/S_1
 20 satisfies the relation:

$$1.5 < \frac{S_{lcs}}{S_1} < 3.$$

4. A lighting system as claimed in claim 1 or 2, characterized in that the second
 edge surface is reflecting with respect to light inside the light-emitting panel.

5. A lighting system as claimed in claim 4, characterized in that the surface of the second edge surface is specularly or diffusely reflecting or is provided with a specularly or diffusely reflecting material.

5 6. A lighting system as claimed in claim 1, characterized
in that the second edge surface is light-transmitting, a second light source
being associated with the second edge surface,
wherein, in operation, light originating from the second light source is incident
on the second edge surface and distributes itself in the panel, and
10 in that the light-emitting panel widens from the second edge surface in a
direction towards the first edge surface.

7. A lighting system as claimed in claim 1, 2 or 6, characterized in that a further
surface of the steps makes an angle β with respect to a normal on the front wall, wherein
15 $-48 \leq \beta \leq 48^\circ$.

8. A lighting system as claimed in claim 7, characterized in that the angle β is in
the range $0 \leq \beta \leq 48^\circ$.

20 9. A lighting system as claimed in claim 1, 2 or 6, characterized in that the front
wall is provided with a translucent diffuser.

10. A lighting system as claimed in claim 1 or 2, characterized in that the light-
emitting panel comprises between the widening section and the second edge surface a light
25 guide part providing bi-directional light extraction.

11. A lighting system as claimed in claim 10, characterized in that the rear wall of
the light-emitting panel at the bi-directional light extracting light guide part is provided with
a structure to extract light by disrupting total internal reflection locally.

30 12. A lighting system as claimed in claim 10, characterized in that the structure on
the rear wall at the bi-directional light extracting light guide part is formed by a multitude of
steps of which a surface facing the front wall is substantially parallel to the front wall.

13. A lighting system as claimed in claim 1, 2 or 6, characterized in that the light source comprises one white LED or at least two light-emitting diodes with different light emission wavelengths.
- 5 14. A lighting system as claimed in claim 13, characterized in that each of the light-emitting diodes has a luminous flux of at least 5 lm.
15. A display device provided with a lighting system as claimed in claim 1, 2 or 6.
- 10 16. A display device as claimed in claim 13, which display device comprises a liquid crystal display.